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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,839	07/28/2003	Robert G. Messerschmidt	P0079.US2	5809
41868	7590	03/03/2006		
INLIGHT SOLUTIONS, INC. 800 BRADBURY, SE ALBUQUERQUE, NM 87106			EXAMINER NGUYEN, THONG Q	
			ART UNIT 2872	PAPER NUMBER

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

11A

Office Action Summary	Application No.	Applicant(s)	
	10/628,839	MESSERSCHMIDT ET AL.	
	Examiner	Art Unit	
	Thong Q. Nguyen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2005 and 23 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,10-23 and 27-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,10-23 and 27-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendments filed on July 8, 2005 and 12/23/2005. It is noted that in the amendments, applicant has amended the drawings and amended the claims. Regarding to the claims, applicant has amended claims 10, 15, 27 and 30 and canceled claims 4 and 39-40. The remaining claims 2-3, 10-23, and 27-38 are examined in this Office action. Claims 1, 5-9 and 24-26 were canceled by applicant in the amendment of 12/10/04.

Drawings

2. The drawings contain replacement sheet of figure 11f was received on 7/8/05. It is noted that the sheet contained figure 11f is labeled as a replacement sheet. Such use of the terms "Replacement sheet" for the sheet contained fig. 11f is objected by the Examiner for the following reason.

As stated in the previous Office action, the drawings are objected to because it does not contain figure 11f as stated in the specification in page 13, section [0042]. In response to the objection, applicant has stated that the sheet contained figure 15 also contains figure 11f (see amendment of 6/30/2004, page 9). A careful review of the sheet contained figure 15 has resulted that this sheet contains only figure 15. There is not any sheet which contains figure 11f.

To correct the mentioned deficiency, applicant is now submitted a new sheet contained figure 11f and labeled the sheet as a replacement sheet. However, ***since the sheet contained figure 11f does not contain figure 15, and thus it cannot be***

labeled as a replacement sheet. Applicant must file a new sheet contained both figures 11f and 15 and labeled such sheet as a replacement sheet in response to this Office action.

Specification

3. The disclosure is objected to because of the following informalities: Page 3: the specification does not provide a brief description of figure 11f. Applicant should amend the specification by providing a brief description of figure 11f. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The rejection of claim 4 under 35 USC 112, first paragraph as set forth in the previous Office action is overcome by the cancellation of the claim 4 in the amendment of 7/8/05.

5. The rejections of claims 15 and 30 under 35 U.S.C. 112, second paragraph as set forth in the previous Office action are now overcome by the amendments to the claims as provided in the amendment of 7/8/05. being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. The rejection of claim 38 under 35 USC 112, second paragraph as set forth in the previous Office action is now repeated as provided below. It is noted that applicant has not amended the claim or provide any argument to overcome the rejection to the claim.

Claim 38 is rejected under 35 USC 112, second paragraph because it is unclear about the structural relationships of the mechanism used to mount the sample interface to the frame as recited in the feature thereof "ledges on the frame...combination thereof" (claim 38, lines 2-5).

7. Claims 2-3, 10-23 and 27-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a) Each of claims 10 and 27 is rejected under 35 USC 112, first paragraph because the disclosure, as originally filed, does not provide support for the "ex vivo" sample as newly-added into each of claims 10 and 27.

A careful review of the specification has yielded that the specification has not provided the support for an "ex vivo" feature of the sample. Applicant should note that while the section [0003] discloses that in some application, a thin slice of a biological sample or a smear of biological cells is placed on a slide; however, the specification has never disclosed that the sample is an ex vivo sample as claimed.

b) The remaining claims are dependent upon the rejected base claims and thus inherit the deficiencies thereof.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
9. Claims 2-3, and 10-23, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Berman et al in view of Laronga et al and Dukor (all of record).

Berman et al discloses an optical device having light source, detecting system, and a system for supporting a sample. While Berman et al do not clearly disclose a means for analyzing the collected light to determine a characteristic of the specimen; however, such a means for analyzing the sample based on the collected light is inherent in the system of Berman as can be seen in columns 9-10 in which they disclose their system is used for spectroscopic analysis of a sample having sensors and computer.

Regarding to the system for supporting a sample, in columns 6-7 and figs. 1(A-D), the system comprises a body (104) for supporting a sample (112). The material of the body is capable to transmit light in both infrared range and visible range. The support for that conclusion is found in the Patent '548, column 7, lines 27-32 and the present specification in page 5, section [0016] in which the materials of the body of the prior art and the present claims are selected from a group of same materials. For instance, since the material of the body (104) supporting a sample can be Zinc Sulfide as that of the body provided by the

present specification, thus the body supporting a sample of the Patent '548 is able to transmit light in near- and mid-infrared range.

With regard to the type of sample to be supported by the body, the sample disclosed in the Patent '548 is a biological sample. While Berman et al do not clearly state that the biological material is an ex vivo material as claimed; however, such a system for supporting a sample as provided by Berman et al is able to use for supporting an ex vivo sample for the detecting/analyzing purpose since the use of a system having a frame or a support for supporting a cervical cell which is used an attenuated total reflection technique is suggested to one skilled in the art as can be seen in the device provided by Dukor. Thus, it would have been obvious to one skilled in the art at the time the invention was made to applying the suggestion, i.e., using an attenuated total reflection technique for illuminating a cervical cell, provided by Dukor by utilizing the system having a parallel-configuration plate allowed for infrared and visible transmission as provided by Berman et al for supporting an ex vivo sample such as a cervical cell so that the cell is able to be observed and measured via the system having a plate supported such cell.

Regarding to the feature relating to the shape of the body as claimed, it is noted that the body supporting a sample has flat and parallel surfaces as can be seen in the figures 1A and 1C. Regarding to the range governing the dimension of the body, in column 11, example 1, the body has a dimension of 10 x 55 x 4 mm (wide x length x thickness). Regarding to the angle defined by the edge and the

surface, it is noted that the angles defined by the edges and surfaces are equal since the body supporting a sample as provided by Berman et al can have a parallelogram configuration and has a value smaller than 90 degrees. It is also noted that the use of mirror or reflective coating for the edge is suggested by Berman as can be seen in column 7. The making of the reflective coating or mirror as a polished surface is inherently provided because such a polished reflective surface will improve the reflective function.

Thus, the device as provided by Berman et al meets all of the features claimed except the thickness dimension of the sample. In other words, while the body supporting a sample provided by Berman et al as provided in the example 1 has a thickness of 4 mm, they do not clearly state that the thickness of the body can be smaller. However, it is obvious to one skilled in the art to use body of smaller thickness for the purpose of improving the light quality and/or for utilizing the convention slide in a microscope. A typical example of a slide having a total reflection feature for use with an illumination wherein the side facing the light has a dimension of 3 x1 mm or 3 x 2 mm (wide x thickness) is disclosed in the art of Laronga et al. See figure 4 and column 3. It is also noted that it was decided in the Courts that the change in size is an obvious matter to one skilled in the art. See *In re Rose*, 105 USPQ 237 (CCPA 1955). Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the body supporting a sample provided by Berman et al by using a body with smaller

thickness as suggested by Laronga et al for the purpose of improving the light quality and/or for utilizing the convention slide in a microscope.

Regarding to the feature relating to the angles defined by the edges and the surfaces as claimed in claims 17-18, such an angle of 90 degrees for the angle defined by the edge and the surface is disclosed by Laronga et al as can be seen in the figure 4. Further, the value of 90 degrees for the angle is not critical to the invention because applicant has disclosed other embodiments in which the angle is not 90 degrees, See also present claim 20. Regarding to the value of 50 degrees, it is also an obvious matter to one skilled in the art to select any suitable angle for the angle defined by the edge and the surface for a particular application. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the body supporting a sample provided by Berman et al and Dukor by making the angle of the edge and the surface as an angle of 90 degrees as suggested by Laronga et al for the purpose of reducing the manufacture cost.

10. Claims 27-38, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Berman et al in view of Laronga et al, Dukor, and Messerschmidt (all of record).

Berman et al discloses an optical device having light source, detecting system, and a system for supporting a sample. While Berman et al do not clearly disclose a means for analyzing the collected light to determine a characteristic of the

specimen; however, such a means for analyzing the sample based on the collected light is inherent in the system of Berman as can be seen in columns 9-10 in which they disclose their system is used for spectroscopic analysis of a sample having sensors and computer.

Regarding to the system for supporting a sample, in columns 6-7 and figs. 1(A-D), the system comprises a body (104) for supporting a sample (112). The material of the body is capable to transmit light in both infrared range and visible range. The support for that conclusion is found in the Patent '548, column 7, lines 27-32 and the present specification in page 5, section [0016] in which the materials of the body of the prior art and the present claims are selected from a group of same materials. For instance, since the material of the body (104) supporting a sample can be Zinc Sulfide as that of the body provided by the present specification, thus the body supporting a sample of the Patent '548 is able to transmit light in near- and mid-infrared range. With regard to the type of sample to be supported by the body, the sample disclosed in the Patent '548 is a biological sample. While Berman et al do not clearly state that the biological material is an ex vivo material as claimed; however, such a system for supporting a sample as provided by Berman et al is able to use for supporting a cervical cell for the cancer detecting purpose since the use of a system having a frame or a support for supporting a cervical cell which is used an attenuated total reflection technique is suggested to one skilled in the art as can be seen in the device provided by Dukor. Thus, it would have been obvious to one skilled in the art at

the time the invention was made to applying the suggestion, i.e., using an attenuated total reflection technique for illuminating a cervical cell, provided by Dukor by utilizing the system having a parallel-configuration plate allowed for infrared and visible transmission as provided by Berman et al for supporting a cervical cell so that the cell is able to be observed and measured via the system having a plate supported such cell.

Regarding to the feature relating to the shape of the body as claimed, it is noted that the body supporting a sample has flat and parallel surfaces as can be seen in the figures 1A and 1C. Regarding to the range governing the dimension of the body, in column 11, example 1, the body has a dimension of 10 x 55 x 4 mm (wide x length x thickness). Regarding to the angle defined by the edge and the surface, it is noted that the angles defined by the edges and surfaces are equal since the body supporting a sample as provided by Berman et al can have a parallelogram configuration and has a value smaller than 90 degrees. It is also noted that the use of mirror or reflective coating for the edge is suggested by Berman as can be seen in column 7. The making of the reflective coating or mirror as a polished surface is inherently provided because such a polished reflective surface will improve the reflective function.

The only feature missing from the device provided by Berman et al and Dukor is that they do not clearly disclose the use of a frame for supporting the body wherein the frame has a particular dimension as claimed.

Regarding to the feature relating to the frame supporting the body, which is missing from the art of Berman et al, it is noted that such use of a frame for supporting a body making by material for transmitting both infrared light and visible light is suggested by Messerschmidt as can be seen columns 3-4 and shown in figure 3. It is also noted that the shape of the frame supporting the body is inherently compatible to the microscope and/or spectroscopic device for the purpose of supporting the body inside the device for observation. The use of mechanical elements for connecting the frame and the body is indirectly suggested to one skilled in the art as can be seen in the teachings relating to the brackets and grooves provided in column 3, lines 19+.

Regarding to the dimension of the frame, while the body supporting a sample provided by Berman et al as provided in the example 1 has a thickness of 4 mm, they do not clearly state that the thickness of the body can be smaller. However, it is obvious to one skilled in the art to use body of smaller thickness for the purpose of improving the light quality and/or for utilizing the convention slide in a microscope. A typical example of a slide having a total reflection feature for use with an illumination wherein the side facing the light has a dimension of 3 x1 mm or 3 x 2 mm (wide x thickness) is disclosed in the art of Laronga et al. See figure 4 and column 3. It is also noted that it was decided in the Courts that the change in size is an obvious matter to one skilled in the art. See *In re Rose*, 105 USPQ 237 (CCPA 1955). Regarding to the feature relating to the angles defined by the edges and the surfaces as claimed in claims 32-33, such an angle of 90 degrees

for the angle defined by the edge and the surface is disclosed by Laronga et al as can be seen in the figure 4. Further, the value of 90 degrees for the angle is not critical to the invention because applicant has disclosed other embodiments in which the angle is not 90 degrees, See also present claim 35. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the body supporting a sample provided by Berman et al, Dukor, and Messerschmidt by using a body with smaller thickness as suggested by Laronga et al for the purpose of improving the light quality and/or for utilizing the convention slide in a microscope.

Response to Arguments

11. Applicant's arguments filed on 7/8/05, pages 5-6, have been fully considered but they are not persuasive for the following reasons.

In response to applicant's argument that the references fail to show certain features of applicant's invention, the Examiner respectfully disagrees with the applicant's opinions and respectfully invited the applicant to show the features claimed in the present claims and not disclosed by the applied art.

Applicant has argued that Berman et al do not disclose the attenuated total reflectant (now hereafter ATR) material has a surface for supporting a sample; the Examiner respectfully invite the applicant to review the Berman et al in column 6, lines 41+ which is clearly disclose that the ATR material (104) has an sample or upper surface (114) for supporting a sample (112). Applicant has argued that the ATR material of Berman et al does not use with visible light; the

Examiner respectfully disagrees with the applicant and respectfully invite the applicant to review the art of Berman et al in column 7, lines 27+ which discloses the material of the ATR plate in which the material of Zinc selenide or Zinc sulfide or Diamond is used. Such material is also the material used to make the ATR material as claimed in present claim 15. Since the same material being used then the material used for making the ATR element in the device of Berman et al inherently has a capacity of visible transmission. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The argument that the pressure of the finger would break the material if the material has a small thickness does not make a persuasive reason. Applicant should note that it was decided in the Courts that a change in size is an obvious matter within the level of one skilled in the art, See *In re Rose*, 105 USPQ 237 (CCPA 1955) and as stated by the Examiner in the rejection that a reduction in thickness of the ATR material will improving the light quality and/or for utilizing the convention slide in a microscope and reducing the manufacture cost.

a. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references issued to Berman et al and Laronga contain teachings related to a support for a sample wherein both references provide the dimensions of the supports. While the primary reference, Berman et al, discloses that the thickness or depthness of the support is about 4 mm. However, the art of Laronga is used as a secondary reference in the rejection to show to one skilled in the art the use of a support having a thickness or a depthness of 1 mm or 2 mm. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the body supporting a sample provided by Berman et al by using a body with smaller thickness as suggested by Laronga et al for the purpose of improving the light quality used to illuminate and analysis the sample located on the body supporting the sample.

Conclusion

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2872

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

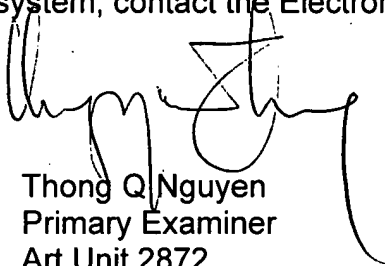
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Nguyen
Primary Examiner
Art Unit 2872
